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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,617	01/10/2005	Muneyasu Fukunaga	OGW-0350	9646

23353 7590 10/30/2006

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EXAMINER

FISCHER, JUSTIN R

ART UNIT PAPER NUMBER

1733

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/520,617	Applicant(s) FUKUNAGA, MUNEYASU	
	Examiner Justin R. Fischer	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollins (US 3,827,792, of record) and further in view of Neal (US 3,815,651, of record), Levy (FR 858,389), and any one of Tyler (Design 78,700, newly cited), Bollinger (Design 63,279, newly cited), Hopkinson (Design 54,261, newly cited), or Fontaine (US 6,439,284, newly cited).

In an analogous manner to the claimed invention, Hollins teaches a compound solid tire comprising a core tire 16 and an annular cover tire 14, wherein the outer peripheral surface of said core tire is provided with a plurality of cavities/grooves 16c and the inner peripheral surface of said cover tire is provided with a plurality of protrusions 14a. It is noted that Hollins specifically teaches that such an interlocking structure prevents the core tire from moving relative to the cover tire as commonly occurs in similar compound solid tires (Column 5, Lines 15-25). In regards to the specific arrangement of the interlocking structure, Hollins suggests the use of a wide variety of configurations and locations (Column 3, Lines 50-60). One of ordinary skill in the art at the time of the invention would have found it obvious to use a combination of longitudinal and axial cavities/protrusions as such an interlocking structure is common in

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the tire industry, as shown for example by Levy (Figure 2). In this instance, the pattern of Levy is non-directional and point-symmetrical around the defined axis as required by the claimed invention- additional non-directional and point symmetrical patterns, including those having inclined lateral grooves, would have been obvious to one of ordinary skill in the art at the time of the invention since they are consistent with the common groove constructions used in the tire industry, as shown for example by any one of Tyler, Bollinger, Hopkinson, or Fontaine. It is emphasized that Hollins, in an analogous manner to the claimed invention, teaches the inclusion of an interlocking structure between an core tire and a cover tire to eliminate any movement or deviation between the two- the particular arrangement of said structure would have been obvious in view of the generic disclosure by Hollins noted above.

Lastly, in regards to the length of the core tire and the cover tire, it is extremely well known and conventional in the tire industry to form an outer member with a smaller length in order to provide a tight fit between two components, as shown for example by Neal (Page 3, Lines 10-20). It is further noted that such a design is commonly applied with a tire mounted on a rim (tire diameter or length is commonly slightly smaller than the rim diameter to achieve the same tightness). Thus, one of ordinary skill in the art at the time of the invention would have found it obvious to form the core tire and cover in accordance to the claimed lengths.

Regarding claim 2, the respective widths are extremely similar to one another- one of ordinary skill in the art at the time of the invention would have expected the respective tires to satisfy the claimed range.

As to claim 4, portion 14b can be viewed as a flange that is disposed on the inner peripheral edge of the side part of the cover tire.

Regarding claim 5, the broad ranges of the claimed invention appear to be satisfied by the general construction depicted by Hollins. In any event, one of ordinary skill in the art at the time of the invention would have found the claimed ranges obvious as they define a broad range of values, it being well recognized that the specific thickness of certain layers or components is a function of the specific tire being manufactured. Additionally, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed arrangement.

As to claim 6, Hollins teaches that the cover tire 14 can be formed of the same type of rubber which is used to make present day tires (Column 4, Lines 5-10). It is well recognized that the claimed properties are consistent with the well-known and conventional rubber compositions used to manufacture present day tires.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hollins, Neal, Levy, Tyler, Bollinger, Hopkinson, and Fontaine as applied in claim 1 above and further in view of Nakayama (JP 5-154941, of record).

As detailed above, Hollins substantially teaches the compound solid tire construction of the claimed invention. Hollins, however, is completely silent with respect to the respective radii of curvature. In any event, the claimed range is consistent with the known relationship in similar tires having outermost layers and innermost layers, as shown for example by Nakayama. In this instance, the claimed range falls completely with range disclosed by Nakayama. Absent any conclusive showing of unexpected

results, one of ordinary skill in the art at the time of the invention would have found it obvious to for the respective surfaces with radii of curvature satisfying the range of the claimed invention. .

Response to Arguments

4. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection. The previous rejections of claims 1-6 have been withdrawn in light of applicant's arguments.

Applicant initially argues that Hollins fails to disclose, suggest, or teach forming the outer tire with a length between 92 and 99.5 percent of the length of the inner tire. As detailed in the rejection above, such a technique is generally recognized in the tire industry and provides a strong connection between an underlying structure and a component that is placed thereon. In this instance, Neal provides one example of a tire in which an outermost component is stretched and subsequently arranged on an underlying tire structure, with such a technique providing a close fit (outer component is placed in tension). Thus, the art does recognize forming an outer tire component with a smaller length (as compared to an underlying tire structure) in order to force the outer component in tension and form a strong connection.

The rejections with respect to Iketani and Fukunaga have been withdrawn.

As to Neal, in an analogous manner to the description above, the reference does recognize the known technique of forming a component with a smaller length in order to force the component into tension and provide a strong connection between the respective components. In addition to the casing/tread disclosure of Neal, it is

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extremely common to form the tire with an inner diameter that is smaller than the rim diameter in order to provide a strong attachment between the tire and the rim. It is emphasized that the tire industry generally recognizes the formation of smaller dimensioned components in order to provide a strong attachment between adjacent components.

In regards to Nakayama, applicant argues that the reference fails to disclose, teach, or suggest the claimed lengths or the specific groove arrangement. It is agreed that the reference fails to disclose, teach, or suggest either of these features. However, the reference is solely applied to recognize the claimed radii arrangement as being consistent with common tire constructions.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Justin R Fischer
Primary Examiner
Art Unit 1733

JRF
October 27, 2006